# CENSUS BULLETIN.

No. 162.

WASHINGTON, D. C.

April 28, 1902.

AGRICULTURE.

# VERMONT.

Hon. WILLIAM R. MERRIAM,

Director of the Census.

SIR: I have the honor to transmit herewith, for publication in bulletin form, the statistics of agriculture in the state of Vermont, taken in accordance with the provisions of section 7 of the act of March 3, 1899. This section requires that—

The schedules relating to agriculture shall comprehend the following topics: Name of occupant of each farm, color of occupant, tenure, acreage, value of farm and improvements, acreage of different products, quantity and value of products, and number and value of live stock. All questions as to quantity and value of crops shall relate to the year ending December thirty-first next preceding the enumeration.

A "farm," as defined by the Twelfth Census, includes all the land, under one management, used for raising crops and pasturing live stock, with the wood lots, swamps, meadows, etc., connected therewith. It includes also the house in which the farmer resides, and all other buildings used by him in connection with his farming operations.

The farms of Vermont, June 1, 1900, numbered 33,104, and had a value of \$83,071,620, of which amount \$87,257,715, or 44.9 per cent, represents the value of buildings, and \$45,813,905, or 55.1 per cent, the value of land and of improvements other than buildings. On the same date the value of farm implements and machinery was \$7,538,490, and of live stock \$17,841,317. These values, added to that of farms, give \$108,451,427, the "total value of farm property."

The products derived from domestic animals, poultry, and bees, including animals sold and animals slaughtered on farms, are referred to in this bulletin as "animal products." The total value of all such products, to-

gether with the value of all crops, is termed "total value of farm products." This value for 1899 was \$33,570,892, of which amount \$15,400,613, or 45.9 per cent, represents the value of animal products, and \$18,170,279, or 54.1 per cent, the value of crops including forest products.

The total value of farm products for 1899 exceeds that for 1889 by \$13,205,912, or 64.8 per cent. A large part of this increase is doubtless due to a more detailed enumeration in 1900 than in 1890. The gross farm income is obtained by deducting from the total value of farm products, the value of products fed to live stock on the farms of the producers. In 1899, the reported value of products fed was \$11,576,590, leaving \$21,994,302 as the gross farm income for that year. The percentage which this amount is of the total value of farm property, is referred to in this bulletin as the "percentage of income upon investment." For Vermont in 1899 it was 20.3 per cent.

As no reports of expenditures for taxes, interest, insurance, feed for stock, and similar items have been obtained by any census, no statement of net farm income can be given.

The statistics presented in this bulletin will be treated in greater detail in the final report on agriculture in the United States, which will be published about June 1, 1902. The present publication is designed to present a summarized advance statement for Vermont.

Very respectfully,

L. G. Powen.

Chief Statistician for Agriculture.

# AGRICULTURE IN VERMONT.

## GENERAL STATISTICS.

The total land area of Vermont is 9,135 square miles, or 5,846,400 acres, of which 4,724,440 acres, or 80.8 per cent, are included in farms. The state lies within the Connecticut River valley on the east and the Champlain-Hudson valley on the west. The Green Mountains divide the state into nearly equal portions and render the surface everywhere irregular and broken.

Although the soil in many places is stony and sterile, much of it is productive. The valleys and the lower hills are suitable for cultivation, and the higher hills and mountains furnish excellent pasturage. Much attention is given to dairying and the raising of improved stock. The best tracts of arable land are in the western part of the state.

#### NUMBER AND SIZE OF FARMS.

The following table gives, by decades since 1850, the number of farms, the total and average acreage, and the per cent of farm land improved.

TABLE 1.—FARMS AND FARM ACREAGE: 1850 TO 1900.

		NUI	Percent			
YEAR. Number of farms,	Total.	Improved.	Unim- proved.	Average.	of farm land im- proved.	
1900 1890 1880 1870 1860 1850	33, 104 32, 578 35, 522 33, 827 31, 556 29, 763	4, 724, 440 4, 395, 646 4, 882, 588 4, 528, 804 4, 274, 414 4, 125, 822	2, 126, 624 2, 655, 948 3, 286, 461 3, 073, 257 2, 828, 157 2, 601, 409	2, 597, 816 1, 789, 708 1, 596, 127 1, 455, 547 1, 451, 257 1, 524, 418	142.7 134.9 137.5 133.9 135.5 138.6	45, 0 60, 4 67, 3 67, 9 66, 0 63, 1

The number of farms increased steadily until the decade 1880 to 1890, when there was a decrease amounting to 8.3 per cent. In the last decade the number increased 1.6 per cent and in 1900 was 11.2 per cent greater than in 1850. The total farm acreage varied in a similar manner, but the increase in the last decade was at a greater rate, amounting to 7.5 per cent. The average size of farms was greater in 1900 than in any previous census year in the half century, and the increase in the last decade was greater than in any other. The variations have not been very marked, some

decades showing an increase and others a decrease in average size. The acreage of improved land reported by the census has decreased since 1880, and especially during the last decade. As a result it constituted in 1900 a much smaller percentage of the total farm acreage than it did in any previous census year.

#### FARM PROPERTY AND PRODUCTS.

Table 2 presents a summary of the principal statistics relating to farm property and products for each census year beginning with 1850.

Table 2.—Values of specified classes of farm Property, and of farm products: 1850 to 1900.

YEAR.	Total value of farm property.	Land, improve- ments, aud buildings.	Imple- ments and machinery.	Live stock.	Farm prod- uets. <sup>1</sup>
1900 1890 1880 1870 1860	\$108, 451, 427 101, 805, 370 180, 811, 490 168, 506, 189 114, 196, 989 78, 749, 737	\$83, 071, 620 80, 427, 490 109, 346, 010 139, 367, 075 94, 289, 045 63, 367, 227	\$7, 538, 490 4, 783, 560 4, 879, 285 5, 250, 279 8, 665, 955 2, 789, 282	\$17, 841, 317 16, 644, 320 16, 586, 195 23, 888, 885 16, 241, 989 12, 643, 228	\$83, 570, 892 20, 364, 950 22, 082, 656 8 84, 647, 027

<sup>1</sup> For year preceding that designated.
 <sup>2</sup> Values for 1870 were reported in depreciated currency.
 To reduce to specie basis of other figures they must be diminished one-fifth.
 <sup>3</sup> Includes betterments and additions to live stock.

Though the total value of farm property reported for 1900 is less than that for 1860, 1870, or 1880, there has been an increase of 37.7 per cent since 1850 and of 6.5 per cent, or \$6,646,057, since 1890. Of this sum \$2,644,130, or 39.8 per cent, represents the increase in the value of land and buildings; \$2,804,930, or 42.2 per cent, in that of implements and machinery; and \$1,196,997, or 18.0 per cent, in that of live stock. The increases in the value of implements and machinery and in the value of farm products are doubtless due in part to a more complete enumeration in 1900 than heretofore.

# COUNTY STATISTICS.

Table 3 gives an exhibit of general agricultural statistics by counties.

TABLE 3.—NUMBER AND ACREAGE OF FARMS, AND VALUES OF SPECIFIED CLASSES OF FARM PROPERTY, JUNE 1, 1900, WITH VALUE OF PRODUCTS OF 1899 NOT FED TO LIVE STOCK, AND EXPENDITURES IN 1899 FOR LABOR AND FERTILIZERS, BY COUNTIES.

	NUMBER OF FARMS. ACRES IN FAR		n FARMS.	V.	LUES OF FAR	M PROPERTY	•		EXPENDI	TURES.	
COUNTIES.	Total.	With build- ings.	Total.	Improved.	Land and improvements (except buildings).	Buildings,	Imple- ments and machinery.	Live stock.	Value of products not fed to live stock,	Labor.	Fertili- zers.
The State	33, 104	32, 558	4, 724, 440	2, 126, 624	\$45, 818, 905	\$37, 257, 715	<b>\$7,538,490</b>	\$17,841,317	\$21, 994, 802	\$3, 133, 140	\$447,065
Addison Bennington Caledonia Chittenden Essex	2,714	2, 688	403, 587	243, 582	5, 339, 660	3, 882, 310	606, 790	1, 786, 295	1, 856, 682	270, 110	28, 845
	1,660	1, 642	270, 609	112, 673	2, 604, 880	2, 103, 870	301, 580	776, 144	1, 159, 718	195, 340	19, 330
	2,579	2, 558	848, 641	167, 169	2, 857, 980	2, 609, 750	694, 090	1, 420, 004	1, 812, 902	252, 390	41, 730
	2,101	2, 077	290, 787	166, 808	4, 806, 550	3, 645, 190	617, 190	1, 454, 020	1, 725, 179	318, 720	28, 820
	878	866	158, 970	58, 319	899, 780	780, 070	174, 720	475, 858	540, 328	78, 000	10, 000
Franklin	49.1	2,518	360, 862	160, 500	5, 227, 860	3, 468, 980	662, 150	1,722,241	2, 123, 643	317, 450	81,210
Grand Isle		493	47, 096	85, 665	1, 174, 900	766, 780	102, 850	249,964	824, 848	50, 730	1,650
Lamoille		1,602	219, 754	78, 487	1, 565, 610	1, 377, 410	860, 880	780,762	900, 206	101, 970	29,500
Orange		3,087	425, 691	184, 906	2, 768, 050	2, 670, 250	655, 640	1,401,166	1, 787, 560	223, 900	43,840
Orleans		2,868	885, 001	204, 401	8, 428, 810	2, 694, 290	786, 670	1,592,756	2, 036, 705	219, 230	85,530
Rutland	2,930	2,872	458, 282	206, 093	5, 080, 025	4, 104, 085	612,530	1,737,088	2, 191, 581	324, 470	38,270
Washington	2,910	2,867	378, 497	143, 931	3, 435, 280	2, 721, 980	621,310	1,478,722	1, 880, 502	250, 480	47,060
Windham	2,765	2,719	428, 896	141, 581	8, 059, 080	2, 711, 270	597,900	1,303,842	1, 726, 416	214, 860	51,800
Windsor	3,796	3,701	547, 817	222, 509	8, 570, 990	3, 721, 480	744,190	1,762,960	2, 028, 087	315, 490	49,480

In the last decade the changes in the number of farms have been small. Five counties show decreases, the greatest loss, 5.3 per cent, being in Chittenden county. The greatest gain, 7.6 per cent, was in Orange county.

The percentage of total land area included in farms in 1900 varied from 35.9 in Essex county to 97.0 in Orange county. The average size of farms ranged from 95.3 acres in Grand Isle county to 181.1 in Essex county. Every county shows a gain since 1890 in total farm area, except Grand Isle where there was a loss of 0.3 per cent. The greatest gain, 12.6 per cent, was in Essex county. The improved farm area, however, decreased in every county except Orleans, where there was an increase of 2.2 per cent. The greatest loss, amounting to 32.2 per cent, was in Windham county.

The total value of farms did not change greatly in the decade from 1890 to 1900. Only four counties report losses, the greatest being in Lamoille county, where it amounted to 8.0 per cent. The greatest rate of increase, 11.6 per cent, was in Caledonia county. All counties report large increases in the value of implements and machinery, and but four counties report smaller values for live stock than in 1890. The greatest increase, that in Franklin county, amounted to 25.5 per cent.

The average expenditure per farm for labor, including the value of board furnished, varied from \$63 in Lamoille county to \$152 in Chittenden county. All counties show much larger amounts expended for fertilizers in 1899 than ten years before. The average per farm in 1899 varied from \$3.34 in Grand Isle county to \$18.73 in Windham county.

### FARM TENURE.

Table 4 gives a comparative exhibit of farm tenure for 1880, 1890, and 1900. In Table 5 the tenure of farms for 1900 is given by race of farmer, farms operated by owners being subdivided into 4 groups designated as farms operated by "owners," "part owners," "owners and tenants," and "managers." These groups comprise, respectively:

(1) Farms operated by individuals who own all the land they cultivate; (2) farms operated by individuals who own a part of the land and rent the remainder from others; (3) farms operated under the joint direction and by the united labor of two or more individuals, one owning the farm or a part of it, and the other, or others, owning no part, but receiving for supervision or labor a share of the products; and (4) farms operated by individuals who receive for their supervision and other services a fixed salary from the owners.

The farms operated by tenants are divided into two groups designated as farms operated by "cash tenants" and "share tenants." These groups comprise respectively: (1) Farms operated by individuals who pay a rental in cash or a stated amount of labor or farm produce; (2) farms operated by individuals who pay as rental a stated share of the products.

TABLE 4.—NUMBER AND PER CENT OF FARMS OF SPECIFIED TENURES: 1880 TO 1900.

VEAR	Total number		OF FARMS	OPERA-	PER CENT OF FARMS OPERA- TED BY—			
	of farms.	Owners,1	Cash tenants.	Share tenants.	Owners,1	Cash tenants.	Share tenants.	
1900 1890 1880	33, 104 32, 573 35, 522	28, 284 27, 816 30, 760	2, 424 2, 801 2, 164	2, 396 2, 456 2, 598	85. 5 85. 4 86. 6	7.8 7.1 6.1	7.2 7.5 7.8	

<sup>&</sup>lt;sup>1</sup>Including "part owners," "owners and tenants," and "managers."

TABLE 5.—NUMBER OF FARMS, JUNE 1, 1900, CLASSIFIED BY RACE OF FARMER AND BY TENURE.

RACE.	Total number of farms,	Owners.	Part owners.	Owners and tenants,	Mana- gers.	Cash tenants.	Share tenants.
The State	88, 104	25, 982	1,373	814	615	2,424	2,396
White Colored	83,096 8	25, 976 6	1,372 1	314	615	2,423 1	2,896

In the decade from 1880 to 1890 the number of farms

operated by owners decreased, but in the last decade there was an increase of 1.7 per cent, which, however, was not sufficient to bring the number up to that of 1880, the twenty-year period showing a net decrease of 8.0 per cent. The number of cash tenants has increased in each decade, while that of share tenants has decreased, indicating a growing sentiment in favor of cash tenure. In 1890 the per cent of farms operated by "owners" was 85.4. In 1900 the aggregate number of farms operated by the four subclasses comprising "owners" constituted 85.5 per cent of all farms. Consequently there has been no material change in the decade in the relative number of farms operated by owners and by tenants, although in the preceding decade there was a decrease from 86.6 per cent to 85.4 per cent.

Of the farmers of the state, June 1, 1900, 78.5 per cent were "owners;" 4.1 per cent, "part owners;" 1.0 per cent, "owners and tenants;" 1.9 per cent, "managers;" and 14.5 per cent were tenants.

No previous census has reported the number of farms operated by "part owners," "owners and tenants," or "managers," but it is believed that the number conducted by the last-named class is constantly increasing.

#### OWNERSHIP OF RENTED FARMS.

The ownership of 4,504 of the 4,820 rented farms was ascertained by the enumerators; that of 316 was unreported. The titles to the 4,504 farms are vested in 4,167 owners, an average of approximately 108 farms to every 100 owners. Of the 4,167 owners, 3,927 possess 1 farm each; 238, from 2 to 6; and the remaining 2 own 7 and 19, respectively.

Of the 4,167 owners, 3,666, possessing 3,983 farms, reside in Vermont, and the owners of 3,561 live in the county in which their property is located. Of the non-resident owners, 422 live in the North Atlantic states; 35 in the North Central states; 24 in the Western states; 9 in the South Atlantic states; 1 in a South Central state; and 10 in foreign countries. The total value of the 521 farms owned by nonresidents is \$1,286,101, an average of \$2,469 per farm, as compared with an average of \$1,384 for all farms in the state.

FARMS CLASSIFIED BY RACE OF FARMER AND BY TENURE.

Tables 6 and 7 present the principal statistics for farms classified by race of farmer and by tenure.

TABLE 6.—NUMBER AND ACREAGE OF FARMS, AND VALUE OF FARM PROPERTY, JUNE 1, 1900, CLASSIFIED BY RACE OF FARMER AND BY TENURE, WITH PERCENTAGES.

RACE OF FARMER,	Num-	иимве	R OF ACRES	VALUE OF FARM PROPERTY.		
AND TENURE.	ber of farms.	Average.	Total.	Per cent.	Total.	Per cent.
The State	33, 104	142.7	4, 724, 440	100.0	\$108, 451, 427	100.0
White farmersColored farmers	33, 096 8	142.7 155.8	4,723,194 1,246	100.0	108, 391, 077 60, 350	99.9 0.1
Owners Part owners Ownersand tenants Managers Cash tenants Share tenants	25, 982 1, 373 314 615 2, 424 2, 396	134.5 204.9 181.5 213.7 130.5 185.0	8, 495, 313 281, 293 57, 005 131, 449 316, 239 443, 141	74.0 5.9 1.2 2.8 6.7 9.4	79, 201, 557 5, 699, 050 1, 354, 390 4, 824, 940 6, 782, 470 10, 589, 020	73. 0 5. 3 1. 2 4. 4 6. 3 9. 8

1 Less than one-tenth of 1 per cent.

TABLE 7.—AVERAGE VALUES OF SPECIFIED CLASSES OF FARM PROPERTY, AND AVERAGE GROSS INCOME PER FARM, WITH PER CENT OF GROSS INCOME ON TOTAL INVESTMENT IN FARM PROPERTY, CLASSIFIED BY RACE OF FARMER AND BY TENURE.

	AVI	erage v	ALUES PEF	FÁRM (	of—	
	Farm	propert	y, June 1,	1900.	Grass	Per cent of gross income
RACE OF FARMER, AND TENURE.	Land and im- prove- ments (except build- ings).	Build- ings.	Imple- ments and ma- chinery	Live stock.	Gross income (products of 1899 not fed to live stock).	e on total invest-ment in farm property.
The State	\$1,884	<b>\$</b> 1, <b>1</b> 25	\$228	<b>\$</b> 539	<b>\$</b> 664	20, 3
White farmersColored farmers	1, 383 5, 375	1, 125 1, 275	228 179	589 715	664 1,271	20.3 16.9
Owners Part owners Owners and tenants Managers Cash tenants Share tenants	1,256 1,738 1,917 3,507 1,213 2,126	1,062 1,390 1,401 2,962 934 1,344	228 305 270 462 171 226	507 718 725 914 480 724	636 884 861 1,029 559 829	20, 9 21, 3 20, 0 18, 1 20, 0 18, 8

Farms operated by cash tenants have the smallest average area, 130.5 acres, and those operated by managers, the largest, 213.7 acres. Many of the latter are adjuncts of public institutions, while others are conducted by wealthy individuals in connection with their summer homes. Such farms, as a rule, are favorably located and highly improved, and the average values of the several classes of farm property are generally higher for this than

for any other group of farms classified by tenure. The ratio which the gross income of these farms bears to the total value of their farm property is, however, smaller than for the other groups. This is due to the high average valuation of land and buildings and to the fact that many of these farms are not cultivated primarily for profit.

Of the 101 farms containing 1,000 acres or over, 67 are operated by owners, 14 by managers, 8 by part owners, 6 by cash tenants, 4 by share tenants, and 2 by owners and tenants.

#### FARMS CLASSIFIED BY AREA.

Tables 8 and 9 present the principal statistics for farms classified by area.

TABLE 8.—NUMBER AND ACREAGE OF FARMS, AND VALUE OF FARM PROPERTY, JUNE 1, 1900, CLASSIFIED BY AREA, WITH PERCENTAGES.

AREA.	Num- ber of	NUMBE	R OF ACRES	VALUE OF FARM PROPERTY.		
AREA.	farms.	Average.	Total.	Per cent.	Total.	Per cent.
The State	33, 104	142.7	4, 724, 440	100.0	\$108, 451, 427	100,0
Under 8 acres	224 1, 378 1, 683 3, 511 6, 518 10, 216 5, 512 3, 431 586 101	1.9 6.0 14.0 34.4 71.9 130.0 208.7 329.2 602.4 1,705.1	436 8, 281 28, 559 120, 740 468, 227 1, 928, 066 1, 150, 449 1, 129, 561 322, 908 172, 218	(1) 0.2 0.5 2.6 9.9 28.1 24.4 23.9 6.8 3.6	247, 300 1, 911, 470 2, 586, 480 6, 147, 680 13, 691, 980 80, 817, 970 24, 144, 027 21, 785, 800 5, 061, 830 2, 606, 890	0. 2 1, 8 2, 3 5, 7 12, 6 27, 9 22, 8 20, 1 4, 7 2, 4

<sup>1</sup>Less than one-tenth of 1 per cent.

TABLE 9.—AVERAGE VALUES OF SPECIFIED CLASSES OF FARM PROPERTY, AND AVERAGE GROSS INCOME PER FARM, WITH PER CENT OF GROSS INCOME ON TOTAL INVESTMENT IN FARM PROPERTY, CLASSIFIED BY AREA.

	AVI	erage v	ALUES PER	FARM	o <b>r-</b>	
	Farm	property	1900.	Gross	Per cent of gross income	
The State	Land and im- prove- ments (except build- ings).	Build- ings.	Imple- ments and ma- chinery.	Live stock.	(products of 1899 not fed to live stock).	on total
The State	\$1,384	\$1,125	\$228	<b>\$</b> 589	\$664	20.3
Under 8 acres	282 421 549 693 859 1,206 1,882 2,877 4,412 12,783	674 791 736 749 779 1,005 1,391 1,954 2,902 8,720	53 65 89 110 149 231 814 405 520 1,695	95 110 138 199 315 526 793 1,114 1,610 2,613	197 149 182 268 409 671 950 1,307 1,827 2,755	17. 9 10. 7 12. 1 15. 3 19. 5 22. 6 21. 7 20. 6 19. 8 10. 7

The group of medium-sized farms, containing from 100 to 174 acres each, comprise a greater number of farms and

a larger aggregate farm area and farm value than any other group. With the exception of a slight variation in the case of buildings, the average values of the several forms of farm property advance as the size of farms increases. For farms of less than 50 acres each, the value of buildings exceeds that of the land and improvements other than buildings.

The average gross incomes per acre for the various groups are as follows: Farms under 3 acres, \$101.56; 3 to 9 acres, \$24.77; 10 to 19 acres, \$12.99; 20 to 49 acres, \$7.80; 50 to 99 acres, \$5.69; 100 to 174 acres, \$5.16; 175 to 259 acres, \$4.55; 260 to 499 acres, \$3.97; 500 to 999 acres, \$3.03; and 1,000 acres and over, \$1.62. The high gross income per acre for farms of less than 3 acres is due to the fact that the group is largely composed of florists' establishments, vegetable farms, and city dairies, the incomes of which are determined not so much by the acreage of land used as by the capital invested in buildings, implements, and live stock, and the amounts expended for labor and fertilizers.

#### FARMS CLASSIFIED BY PRINCIPAL SOURCE OF INCOME.

In Tables 10 and 11 farms are classified by principal source of income. If the value of the hay and grain raised on any farm exceeds that of any other crop and constitutes at least 40 per cent of the total value of products not fed to live stock, the farm is classified as a "hay and grain" farm. If vegetables are the leading crop, constituting 40 per cent of the value of products, it is a "vegetable" farm. The farms of the other groups are classified in accordance with the same general principle. "Miscellaneous" farms are those whose operators do not derive 40 per cent of their income from any one class of farm products. Farms with no income in 1899 are classified according to the agricultural operations upon other farms in the same locality.

TABLE 10.—NUMBER AND ACREAGE OF FARMS, AND VALUE OF FARM PROPERTY, JUNE 1, 1900, CLASSIFIED BY PRINCIPAL SOURCE OF INCOME, WITH PERCENTAGES.

PRINCIPAL SOURCE	Num-	NUMBE	R OF ACRES	VALUE OF FARM PROPERTY.		
OF INCOME,	ber of farms.	Average.	Total.	Per cent,	Total.	Per cent.
The State	33, 104	142.7	4,724,440	100,0	\$108, 451, 427	100.0
Hay and grain	2, 519 679 204 7, 323 16, 700 38 45 28 5 5, 563	115.7 51.5 65.5 134.8 152.0 146.4 82.0 11.0 118.0 152.5	291, 369 34, 944 13, 363 987, 107 2, 538, 948 5, 564 8, 691 308 565 848, 581	6. 2 0. 7 0. 8 20. 9 53. 7 0. 1 (1) (1) (1) 18. 0	6, 528, 640 1, 207, 100 598, 690 22, 449, 010 63, 251, 427 139, 340 75, 730 164, 400 32, 925 18, 954, 165	6. 0 1. 1 0. 6 20. 7 58. 3 0. 1 0. 2 (¹) 12. 9

Less than one-tenth of 1 per cent.

TABLE 11.—AVERAGE VALUES OF SPECIFIED CLASSES OF FARM PROPERTY, AND AVERAGE GROSS INCOME PER FARM, WITH PER CENT OF GROSS INCOME ON TOTAL INVESTMENT IN FARM PROPERTY, CLASSIFIED BY PRINCIPAL SOURCE OF INCOME.

	AVE	RÁGE V.	ALUES PER	FARM (	)F	
•	Farm	property	7, June 1, 1	1900.	Gross	Per cent of gross income
PRINCIPAL SOURCE OF INCOME.	Land and im- prove- ments (except build- ings),	Build- ings.	Imple- ments and ma- chinery.	Live stock,	income (products of 1899 not fed to live stock).	on total
	<del></del>					<b> </b>
The State	\$1,384	\$1,125	\$228	<b>\$</b> 539	<b>\$</b> 664	20.3
Hay and grain— Vegotables— Fruit— Live stock Dairy produce— Tobacco— Sugar— Flowers and plants— Nursery products— Miscellaneous—	1, 334 737 1, 107 1, 221 1, 589 1, 374 739 2, 791 3, 820 1, 091	971 759 1,488 1,103 1,261 1,408 536 2,748 2,480 843	105 104 130 221 267 281 160 244 157 193	182 178 215 527 671 609 248 88 128 381	349 267 438 602 787 1,207 286 1,900 10,226 568	18. 5 15. 0 14. 9 19. 6 20. 8 32. 9 14. 0 82. 4 155. 3 22. 5

For the several classes of farms the average values per acre of products not fed to live stock are: Flowers and plants, \$172.70; nursery stock, \$90.50; tobacco, \$8.24; fruit, \$6.69; vegetables, \$5.18; dairy, \$5.17; live stock, \$4.47; hay and grain, \$3.02; sugar, \$2.88; and miscellaneous products, \$3.69.

The wide variations shown in the average gross income and in percentage of gross income upon investment are due largely to the fact that in computing gross income no deduction is made for expenditures. For florists' establishments, nurseries, and market gardens, the average expenditure for such items as labor and fertilizers represents a far greater percentage of the gross income than in the case of "hay and grain," "live-stock," or "miscellaneous" farms. Were it possible to present the average net income, the variations shown would be comparatively slight.

FARMS CLASSIFIED BY REPORTED VALUE OF PRODUCTS NOT FED TO LIVE STOCK.

Tables 12 and 13 present data relating to farms classified by the reported value of products not fed to live stock, or gross income.

TABLE 12.—NUMBER AND ACREAGE OF FARMS, AND VALUE OF FARM PROPERTY, JUNE 1, 1900, CLASSIFIED BY REPORTED VALUE OF PRODUCTS NOT FED TO LIVE STOCK, WITH PERCENTAGES.

VALUE OF PRODUCTS	Num-	NUMBE	R OF ACRES	VALUE OF FARM PROPERTY.		
NOT FED TO LIVE STOCK.	ber of farms.	Average.	Total.	Per cent.	Total.	Per cent.
The State	33, 104	142.7	4, 724, 440	100.0	\$108, 451, 427	100.0
\$0		80. 6 44. 9 40. 6 64. 5 107. 7 161. 4 250. 4 432. 0	10,718 30,319 65,760 408,480 864,627 1,574,884 1,505,948 268,704	0. 2 0. 7 1. 4 8. 5 18. 3 33. 3 31. 9 5. 7	822, 650 770, 740 1, 846, 260 9, 852, 630 17, 184, 650 33, 079, 700 87, 465, 567 8, 429, 280	0.3 0.7 1.7 8.6 15.8 30.5 34.6 7.8

TABLE 13.—AVERAGE VALUES OF SPECIFIED CLASSES OF FARM PROPERTY, AND AVERAGE GROSS INCOME PER FARM, WITH PER CENT OF GROSS INCOME ON TOTAL INVESTMENT IN FARM PROPERTY, CLASSIFIED BY REPORTED VALUE OF PRODUCTS NOT FED TO LIVE STOCK.

	AVE					
VALUE OF PRODUCTS NOT FED TO LIVE STOCK.	Farm property, June 1, 1900.					Per cent of gross income
	Land and im- prove- ments (except build- ings).	Build- ings.	Imple- ments and ma- chinery.	Live stock,	income (products of 1899 not fed to live stock).	on total
The State	\$1,384	<b>\$1,</b> 125	\$228	<b>\$</b> 539	\$664	20.3
\$0 \$1 to \$49 \$50 to \$99 \$100 to \$249 \$250 to \$499 \$500 to \$999 \$1,000 to \$2,499 \$2,500 and over	607 857 1,399	687 549 553 622 797 1,139 1,965 4,310	70 50 58 94 156 255 421 879	184 90 96 172 331 598 1,107 2,219	39 75 172 366 704 1,460 3,506	8, 4 6, 6 11, 5 17, 1 20, 8 23, 4 25, 9

The 133 farms reporting no gross income in 1899 vary in size from less than 3 acres to 500 acres. Of this number 106 are operated by owners. The high average values of farm property for this group indicate that many of these farms were summer homes, held for pleasure and not for profit. Some, however, were partially abandoned farms, while others were farms that had changed hands shortly

prior to the enumeration, and the persons in charge, June 1, 1900, could not give any definite information concerning the products of the preceding year. To this extent the reports fall short of giving a complete exhibit of farm income in 1899.

#### LIVE STOCK.

At the request of the various live-stock associations of the country, a new classification of domestic animals was adopted for the census of 1900. The age grouping for neat cattle was determined by their present and prospective relations to the dairy industry and to the supply of meat products. Horses and mules are classified by age, and neat cattle and sheep by age and sex. The new classification permits a very close comparison with the figures published in previous census reports.

Table 14 presents a summary of live-stock statistics.

TABLE 14.—NUMBER OF DOMESTIC ANIMALS, FOWLS, AND BEES ON FARMS, JUNE 1, 1900, WITH TOTAL AND AVERAGE VALUES, AND NUMBER OF DOMESTIC ANIMALS NOT ON FARMS.

LIVE STOCK. Age in year		. (	NOT ON FARMS.		
LIVE STOCK.	Age in years.	Num- ber.	Value.	Average value.	Num- ber.
Calves Steers Steers Steers Steers Steers Steers Steers Bulls Helfers Cows kept for milk Cous and helfers not kept for milk. Horses Horses Horses Mule colts Mules Asses and burros Lambs Sheep (ewes) Sheep (rams and wethers). Swine Gouts Fowls: Chickens² Turkeys Geese Ducks Bees (swarms of) Value of all live	All ages	13, 875 95, 090	\$566, 130 151, 763 185, 658 261, 661 260, 725 389, 081 7, 740, 908 472, 874 65, 888 181, 727 5, 072, 032 1, 315 226, 021 597, 177 58, 264 620, 169 441, 195 46, 958	\$5, 57 13, 47 22, 84 50, 53 17, 14 12, 65 21, 78 26, 45 47, 18 64, 05 34, 01 1, 98 3, 55 4, 20 6, 52 4, 35	832 138 92 120 035 649 6,398 137 124 124 20,107 6 25 5 829 574 42 5,420 49
stock.			17,841,817		

<sup>&</sup>lt;sup>1</sup> The number reported is of fowls over 3 months old. The value is of all, old and young.
<sup>2</sup> Including Guinea fowls.

The total value of all live stock on farms was \$17,841,317, of which 43.4 per cent represents the value of dairy cows; 15.6 per cent, that of other neat cattle; 29.8 per cent, that of horses; and 11.2 per cent, that of all other live stock.

As in other New England states, the value of steers 3 years old and over is comparatively high; this class includes the valuable working oxen still used in some parts of the state.

No reports were received concerning the value of live stock not on farms, but it is probable that such animals had higher average values than those on farms. Allowing the same averages, however, the total value of all live stock in the state, exclusive of poultry and bees not on farms, would be approximately \$19,389,400.

#### CHANGES IN LIVE STOCK KEPT ON FARMS.

The following table shows the changes since 1850 in the number of the most important domestic animals.

TABLE 15.—NUMBER OF SPECIFIED DOMESTIC ANIMALS ON FARMS: 1850 TO 1900.

YEAR.	Dairy cows.	Other neat cattle.	Horses,	Mules and asses.	Sheep.1	Swine.
1900	270, 194 281, 419 217, 088 180, 285 174, 667 146, 128	231, 746 163, 869 186, 072 140, 550 195, 783 202, 720	85, 531 89, 969 75, 215 65, 015 69, 071 61, 057	356 330 283 252 48 218	182, 167 838, 947 439, 870 580, 347 752, 201 1, 014, 122	95, 090 92, 083 76, 384 46, 345 52, 912 66, 296

<sup>1</sup> Lambs not included.

Since 1850 there has been a steady increase in the number of dairy cows, the gain for the half century being 84.9 per cent, and for the last decade 16.8 per cent. The 101,584 calves reported in 1900 are included in the above table, with "other neat cattle." It is uncertain whether calves were included under this head in the reports for previous census years. If not, they should be deducted from the total given for 1900 in making comparisons with previous reports. A decrease would then be shown in the number of "other neat cattle" in keeping with that shown for each decade since 1850, except the decade from 1870 to 1880.

The number of horses reported in 1900 was 4.9 per cent less than in 1890, but 40.1 per cent greater than in 1850. Mules and asses are few in number but show a steady increase since 1860. Sheep were about one-sixth as numerous in 1900 as in 1850. The decrease has been continuous, amounting to approximately 25 per cent for each decade up to the last, when the rate of decrease was 45.5 per cent, almost double that of any previous decade. The number of swine decreased from 1850 until 1870, after which date there was a rapid increase until 1890. The last decade shows a gain of 3.3 per cent.

In comparing the poultry report for 1900 (see Table 14) with that for 1890, it should be borne in mind that in 1900 the enumerators were instructed not to report fowls less than three months old, while in 1890 no such limitation was made. This fact explains, to a great extent, the decrease in the number of turkeys, ducks, and geese and the small increase in the number of chickens. Compared with the figures for 1890, the present census shows decreases in the number of fowls as follows: Turkeys, 68.6 per cent; ducks, 32.3 per cent; and geese, 52.1 per cent.

#### ANIMAL PRODUCTS.

Table 16 is a summarized exhibit of the animal products of agriculture.

TABLE 16.—QUANTITIES AND VALUES OF SPECIFIED ANIMAL PRODUCTS, AND VALUES OF POULTRY RAISED, ANIMALS SOLD, AND ANIMALS SLAUGHTERED ON FARMS IN 1899.

PRODUCTS.  Wool	Gallons. Pounds. Dozens Pounds. Pounds.	6, 271, 880 182, 278 8, 652	Value.  \$268, 967 2  \$29, 321, 389 959, 965 699, 109 27, 290 2, 786, 137 1, 347, 754  15, 400, 613
TOWN			15,400,613

 $<sup>^1\,\</sup>mathrm{Comprises}$  all milk produced, whether sold, consumed, or made into butter or cheese.  $^2\,\mathrm{Comprises}$  the value of milk sold and consumed and of butter and cheese made.

The animal products of the state in 1899 were valued at \$15,400,613, or 45.9 per cent of the value of all farm products and 70.0 per cent of the gross farm income. Of the above amount, 60.5 per cent represents the value of dairy products; 26.9 per cent, that of animals sold or slaughtered on farms; 10.7 per cent, that of poultry and eggs; and 1.9 per cent, that of wool, mohair, honey, and wax.

#### DAIRY PRODUCE.

The steady growth of population and the increasing popularity of its summer resorts have largely increased the demand for dairy products in Vermont. The present importance of this industry is shown by the fact that in 1899 the proprietors of 16,700 farms, or more than half of the farms of the state, derived their principal income from dairy produce. The production of milk in 1899 was 51,329,998 gallons greater than in 1889, a gain of 56.6 per cent. The quantity of milk sold in 1899 was 57,566,012 gallons, or approximately nine times as great as in 1879. The quantity sold in 1889 was not separately reported.

Of the \$9,321,389 given in Table 16 as the value of all dairy products in 1899, \$1,310,960, or 14.1 per cent, represents the value of such products consumed on farms, and \$8,010,429, or 85.9 per cent, the amount realized from sales. Of the latter sum, \$4,262,877 was derived from the sale of 57,566,012 gallons of milk; \$3,111,783, from 15,822,671 pounds of butter; \$595,692, from 1,591,287 gallons of cream; and \$40,077, from 374,240 pounds of cheese.

The production of butter on farms increased steadily from 1850 to 1880, but since that date has decreased, the rate for the last decade being 19.2 per cent. The production of cheese has decreased steadily and rapidly since 1850

and was in 1899 less than one-twentieth that reported for 1849. These decreases are due principally to the establishment of creameries and cheese factories and to the increased consumption of milk and cream in cities.

#### POULTRY AND EGGS.

The total value of the products of the poultry industry in 1899 was \$1,649,074, of which amount 41.8 per cent represents the value of fowls raised and 58.2 per cent that of eggs produced. Since 1889 the number of dozens of eggs produced has increased 1,756,750, or 38.9 per cent.

#### . WOOL.

The production of wool has decreased steadily for half a century and the clip of 1899 was little more than one-third that of 1849. The decrease in the last decade was 784,630 pounds, or 37.0 per cent. The average weight of fleeces, however, has increased from 5.8 pounds in 1879 to 7.0 pounds in 1899, indicating an improvement in the grade of sheep kept.

#### HORSES AND DAIRY COWS ON SPECIFIED CLASSES OF FARMS.

Table 17 presents, for the leading groups of farms, the number of farms reporting horses and dairy cows, the total number of these animals, and the average number per farm. In computing the averages presented, only those farms which report the kind of animals under consideration are included.

TABLE 17.—HORSES AND DAIRY COWS ON SPECIFIED CLASSES OF FARMS, JUNE 1, 1900.

	HORSES.			DAIRY COWS.			
CLASSES.	Farms report- ing.	Number.	Average per farm.	Farms report- ing.	Number.	Average per farm.	
Total	29, 965	85, 581	2,9	29, 277	270, 194	9, 2	
White farmers	29, 960	85, 513	2.9	29, 271	270, 153	9. 2	
Colored farmers	5	18	3.6	6	41	6. 8	
Owners¹	25, 079	70, 110	2.8	24, 468	210, 765	8. 6	
Managers	480	2, 475	5.2	479	5, 977	12. 5	
Cash tenants	2, 152	5, 926	2.8	2, 084	19, 588	9. 4	
Share tenants	2, 254	7, 020	3.1	2, 246	33, 864	15. 1	
Under 20 acres		3, 309	1.4	2,162	8, 528	1.6	
20 to 99 acres		17, 726	2.0	8,722	87, 766	4.3	
100 to 174 acres		26, 537	2.8	9,531	85, 407	9.0	
175 to 259 acres		18, 428	3.5	4,962	69, 501	14.0	
260 acres and over		19, 531	5.0	3,900	78, 992	19.0	
Hay and grain	1,278	8, 416	2.7	928	4,150	4. 5	
Vegetable	556	1, 096	2.0	326	798	2. 4	
Fruit	143	294	2.1	95	406	4. 8	
Live stock	6,697	19, 999	3.0	6,290	89,809	6. 2	
Dairy produce	16,156	47, 456	2.9	16,700	199,603	12. 0	
Miscellaneous 2	5,140	18, 270	2.6	4,938	25,928	5. 8	

¹Including "part owners" and "owners and tenants." ²Including florists' establishments, nurseries, tobacco farms, and sugar farms.

#### · CROPS.

The following table gives the statistics of the principal crops grown in 1899.

TABLE 18.—ACREAGES, QUANTITIES, AND VALUES OF THE PRINCIPAL FARM CROPS IN 1899.

CROPS.	Acres.	Unit of measure,	Quantity.	Value.
Corn	1,796 78,872 12,152 2,264 9,910 1,006,495 158 6 2,404 408 28,353 4 111 5,020		84,650 2,742,140 380,940 31,950 196,010 185,33 1,336,499 291,390 4,400 27,172 6,945 3,547,829 306 31,492	\$1, 180, 505 29, 078 941, 711 187, 004 18, 012 99, 275 286 10 10, 544, 825 44, 073 875 51, 629 7, 730 1, 833, 730 16, 908 354, 836 464, 182 2184, 821 85, 121 27, 035 3450, 429 2, 044 2, 108, 518 58, 575 9, 868
Total				18, 170, 279

<sup>&</sup>lt;sup>1</sup> Estimated from number of vines or trees.
<sup>2</sup> Including value of raisins, wine, etc.
<sup>8</sup> Including value of cider, vinegar, etc.

Of the total value of crops, hay and forage contributed 58.0 per cent; cereals, 13.5 per cent; forest products, 11.6 per cent; vegetables, including potatoes and onions, 9.4 per cent; maple sirup and sugar, 3.3 per cent; fruits and nuts, 3.0 per cent; and other products, 1.2 per cent.

The average yield of hay and forage was 1.3 tons per acre and the average values were \$7.89 per ton and \$10.48 per acre. The acreage devoted to hay and forage was 80.7 per cent of the total area in crops, but yielded only 58.0 per cent of the total receipts. The average values per acre of other crops were as follows: Flowers and plants, \$1,541.45; nursery products, \$670.61; small fruits, \$204.62; onions, \$152.32; miscellaneous vegetables, \$70.68; potatoes, \$47.04; cereals, \$15.28; and orchard fruits, \$10.53. The crops yielding the highest returns per acre were grown upon very highly improved land. Their production required a relatively great amount of labor and large expenditures for fertilizers.

Maple sugar and sirup were reported in 1900 by 9,811 farmers, the average value of the product per farm being \$61.05. Orleans, Franklin, Caledonia, and Lamoille were the leading counties, and reported over one-half of the total production. The production of 1900 was but onethird that of 1890, each county showing a decrease of at least 50 per cent.

#### CEREALS.

Table 19 is an exhibit of the changes in cereal production since 1849.

TABLE 19.—ACREAGE AND PRODUCTION OF CEREALS: 1849 TO 1899.

PART 1,-ACREAGE,

YEAR.1	Barley.	Buck- wheat.	Corn.	Oats.	Rye.	Wheat,
1899	12, 152	9, 910	60, 633	78, 372	2, 264	1, 796
1889	16, 427	18, 429	41, 790	101, 582	8, 879	8, 897
1879	10, 552	17, 649	55, 249	99, 548	6, 319	20, 748
	¹ No stat		renge were s BUSHELS P	ecured prior RODUCED.	to 1879.	
1899	880, 940	196, 010	2, 322, 450	2,742,140	31, 950	34, 650
1889	420, 761	271, 216	1, 700, 688	8,316,141	43, 256	164, 720
1879	267, 625	356, 618	2, 014, 271	3,742,282	71, 733	387, 257
1869	117, 338	415, 096	1, 699, 882	3,602,430	73, 346	454, 703

The steady decreases shown in the production of wheat and rye indicate that the decreases in the acreages devoted to these grains have been continuous since 1850. The beginning of the decline in the production of other cereals, however, is more recent, the highest point for oats having been reached in 1879, and that for barley in 1889. In the last decade the acreage under corn increased 45.1 per cent, while other cereals show decreases as follows: Barley, 26.0 per cent; buckwheat, 26.2 per cent; oats, 27.8 per cent; rye, 33.0 per cent; wheat, 78.6 per cent. The total acreage in cereals decreased 13.4 per cent.

In 1899, 45.8 per cent of the total area in cereals was devoted to oats; 37.9 per cent, to corn; 7.6 per cent, to barley; 6.2 per cent, to buckwheat; 1.4 per cent, to rye; and 1.1 per cent, to wheat.

The acreage given for cereals does not include 17,924 acres of grain cut green for hay, nor 39,520 acres devoted to corn, nonsaccharine sorghum, and similar crops grown for forage or ensilage.

#### ORCHARD FRUITS.

The changes in orchard fruits since 1890 are shown in the following table.

TABLE 20.—CLASSIFIED ORCHARD TREES AND FRUITS: 1890 AND 1900.

	NUMBER (	OF TREES.	BUSHELS OF FRUIT.		
FRUITS.	1900.	1890.	1899.	1889.	
Apples	1, 675, 181 64 18, 850 4, 998 28, 357 22, 856	1, 728, 096 210 6, 777 1, 966 22, 652 9, 894	1, 176, 822 1, 069 967 10, 239 1, 529	1, 213, 405 164 80 16, 101 746	

The value of the orchard products of 1899 was \$450,429. The counties whose orchard products were valued at more than \$25,000 are: Windham, \$117,935; Bennington, \$49,596; Windsor, \$42,306; Rutland, \$34,086; Washington, \$30,371; and Orleans, \$25,067.

In 1890, 97.7 per cent of all fruit trees in the state

were apple trees, and in 1900, 95.9 per cent. The number of apple trees decreased 3.1 per cent in the decade, the counties showing decreases being Franklin, Orange, Rutland, Washington, Windham, and Windsor, the leading apple-growing counties.

Apricot trees were very few in 1890, and still fewer in 1900. Cherry trees have greatly increased in number, all counties except Caledonia sharing in the gain. In 1890, 98.6 per cent of all peach and nectarine trees in the state were in Windham county, and although other counties have made rapid gains, it still has 68.7 per cent of the total number. The gain for the state was 154.0 per cent, and for Windham county, 76.8 per cent. The number of pear trees increased 25.2 per cent, and that of plum and prune trees, 143.3 per cent.

In addition to the number of trees shown in Table 20, 857 unclassified fruit trees were reported with 803 bushels of fruit. The value of orchard products given above includes the value of 9,998 barrels of cider, 1,881 barrels of vinegar, and 12,420 pounds of dried fruits.

#### VEGETABLES, SMALL FRUITS, AND GRAPES.

The value of all vegetables grown in the state in 1899, including potatoes, sweet potatoes, and onions, was \$1,705,650, of which 78.2 per cent represents the value of potatoes. Aside from the land devoted to potatoes, sweet potatoes, and onions, 5,020 acres were used in growing miscellaneous vegetables. Of this area the products of 3,709 acres were not reported in detail. Of the 1,311 acres which were fully reported, 799 acres were devoted to sweet corn; 127, to cabbages; 64, to turnips; 50, to beets; and 271, to other vegetables.

The total area used in growing small fruits was 416 acres, and the value of the fruit produced was \$85,121, an average of \$204.62 per acre. Of the total area, 232 acres, or 55.8 per cent, were devoted to strawberries and yielded 598,020 quarts. The acreage and production of other berries were as follows: Blackberries and dewberries, 47 acres and 84,990 quarts; currants, 30 acres and 50,490 quarts; gooseberries, 3 acres and 4,500 quarts; raspberries and Logan berries, 91 acres and 176,440 quarts; and other small fruits, 13 acres and 15,820 quarts.

Grapes were grown in 1899 by 2,057 farmers, who obtained 2,401 centals of fruit from 24,715 vines. The total value of the grape crop, including the value of 160 gallons of wine made on farms, was \$7,035.

## FLORICULTURE.

The proprietors of 28 of the 43 establishments where flowers were grown for market in 1899 made commercial floriculture their principal business. They had a capital of \$164,400 invested, of which \$78,150 represents the value of land; \$76,950, the value of buildings; \$6,820, the value of implements; and \$2,480, the value of live stock. Their income in 1899 was \$53,193, of which \$50,543 was derived from flowers and foliage plants and \$2,650 from other products. During the year they expended \$10,965 for labor and \$1,655 for fertilizers.

#### LAND UNDER GLASS.

An aggregate of 298,710 square feet of glass was reported by 116 florists and farmers. The 28 florists reported a glass surface of 215,977 square feet, equivalent to 161,985 square feet of land under glass. The proprietors of the remaining 88 farms used land under glass principally for growing vegetables, and had an average of about 1,554 square feet.

#### NURSERIES.

An income of \$51,130 was reported by the 5 nurserymen of the state, of which amount \$48,530 was derived from the sale of nursery stock and \$2,600 from other products. The value of the land and buildings of these farms was \$31,500; implements, \$785; and live stock, \$640. The amount expended for labor was \$4,860, and for fertilizers, \$432.

#### LABOR AND FERTILIZERS.

The total expenditure for labor on farms in 1899, including the value of board furnished, was \$3,133,140, an average of \$95 per farm. The average was highest for the most intensively cultivated farms, being \$972 for nurseries, \$392 for florists' establishments, \$178 for tobacco farms, \$113 for dairy farms, \$92 for live-stock farms, \$84 for fruit farms, \$54 for hay and grain farms, \$42 for vegetable farms, and \$35 for sugar farms. "Managers" expended an average of \$395; "share tenants," \$108; "owners," \$86; and "cash tenants," \$72. White farmers expended \$95 per farm and colored farmers \$85.

Fertilizers purchased in 1899 cost \$447,065, an average of \$14 per farm, and twice the amount expended in 1889. The average expenditure for nurseries was \$86; for tobacco farms, \$62; for florists' establishments, \$59; for dairy farms, \$16; for vegetable and live-stock farms, \$11; for fruit farms, \$10; for hay and grain farms, \$6; and for sugar farms, \$4.